

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A moving image watermarking method using a human visual system, comprising the steps of:

a) obtaining a watermark value by exclusive-ORing a random key value and a binary value of a logo image;

b) separately performing a plurality of masking operations;

c) obtaining a global masking value through the separately performed masking operations;

d) obtaining a watermarked frame value by adding the watermark value weighted by the global masking value and a control variable, to an original frame value; and

e) inserting a watermark into a moving image frame using the watermarked frame value,

wherein the step b) comprises the step of performing a motion masking operation.

2. (currently amended): The watermarking method according to claim 1, wherein the step b) further comprises the steps of: b1) step of performing a spatial masking operation; and b2) performing a motion masking operation.

3. (currently amended): The watermarking method according to claim 2, wherein the
~~step b1)~~ performing the spatial masking operation comprises the steps of:
adjusting contrast of the moving image frame; and
extracting edges from the contrast-adjusted frame.

4. (currently amended): The watermarking method according to claim 2, wherein the
~~step b2)~~ performing the motion masking operation comprises the steps of:
obtaining a luminance difference between a current frame and a previous frame; and
extracting edges from the current frame.

5. (original): The watermarking method according to claim 2, wherein the step b)
further comprises the step of performing a frequency masking operation.

6. (previously presented): The watermarking method according to claim 1, further
comprising the steps of:

comparing an image quality of the watermarked frame with an image quality set to a
target; and

decreasing the control variable by a predetermined value if the image quality of the
frame is less than the target image quality, and increasing the control variable by a
predetermined value if the image quality of the frame is greater than the target image quality.

7. (original): The watermarking method according to claim 6, wherein the image quality is estimated on the basis of Peak-Signal-to-Noise Ratio (PSNR).

8. (previously presented): The watermarking method according to claim 1, further comprising the step of f) extracting the watermark, the step f) comprising the steps of:
subtracting a watermarked frame value from the original frame value; and
exclusive-ORing the subtracted result value and a random variable obtained by a key value, and obtaining the exclusive-ORed result.

9. (currently amended): A spatial masking method for use in watermarking a moving picture, comprising the steps of:

adjusting contrast of a moving image frame;

extracting edges from the contrast-adjusted frame; and

inserting a watermark in portions of the contrast-adjusted frame from which the edges were extracted; and

storing the extracted edges in a recording medium.

10. (currently amended): A motion masking method for use in watermarking a moving picture, comprising the steps of:

obtaining a luminance difference between a current frame and a previous frame;

extracting edges from the current frame; and

inserting a watermark in portions of the current frame from which the edges were
extracted; and

storing the extracted edges in a recording medium.

11. (original): A recording medium for storing computer programs for executing the method of claim 1 in a format readable by computers.

12.-14. (canceled).

15. (previously presented): The watermarking method according to claim 1, wherein the step b), the plurality of the masking operations are separately performed on identical moving image data.